


FORM PTO-1390 (REV. 9-2001)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER <b>JAA207</b>	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO (If known, see 37 CFR 1.5)	
				<b>09/980898</b>	
INTERNATIONAL APPLICATION NO. <b>PCT/DE 00/01558</b>		INTERNATIONAL FILING DATE <b>18 MAY 2000</b>		PRIORITY DATE CLAIMED <b>20 MAY 1999</b>	
TITLE OF INVENTION <b>STABILIZER FOR A MOTOR VEHICLE</b>					
APPLICANT(S) FOR DO/EO/US <b>STEFAN BEETZ, KLAUS REICHEL</b>					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
<p>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</p> <p>3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</p> <p>4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31).</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))</p> <p>a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</p> <p>b. <input type="checkbox"/> has been communicated by the International Bureau.</p> <p>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</p> <p>6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).</p> <p>a. <input checked="" type="checkbox"/> is attached hereto.</p> <p>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</p> <p>7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))</p> <p>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</p> <p>b. <input type="checkbox"/> have been communicated by the International Bureau.</p> <p>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</p> <p>d. <input type="checkbox"/> have not been made and will not be made.</p> <p>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).</p> <p>9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p> <p><b>Items 11 to 20 below concern document(s) or information included:</b></p> <p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input checked="" type="checkbox"/> A <b>FIRST</b> preliminary amendment.</p> <p>14. <input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.</p> <p>15. <input type="checkbox"/> A substitute specification.</p> <p>16. <input type="checkbox"/> A change of power of attorney and/or address letter.</p> <p>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.</p> <p>18. <input checked="" type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4).</p> <p>19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</p> <p>20. <input type="checkbox"/> Other items or information:</p>					

U.S. APPLICATION NO. (if known) see 37 CFR 1.51 <b>097980098</b>		INTERNATIONAL APPLICATION NO. <b>PCT/DE 00/01558</b>		ATTORNEY'S DOCKET NUMBER <b>JAA207</b>	
21. <input checked="" type="checkbox"/> The following fees are submitted: <b>BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. .... <b>\$1040.00</b>  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... <b>\$890.00</b>  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... <b>\$740.00</b>  International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... <b>\$710.00</b>  International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) ..... <b>\$100.00</b>  <b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				<b>CALCULATIONS PTO USE ONLY</b>	
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).					
<b>CLAIMS</b>	<b>NUMBER FILED</b>	<b>NUMBER EXTRA</b>	<b>RATE</b>		
Total claims	10 - 20 =		x \$18.00		
Independent claims	1 - 3 =		x \$84.00		
MULTIPLE DEPENDENT CLAIM(S) (if applicable)					
<b>TOTAL OF ABOVE CALCULATIONS =</b>					
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					
<b>SUBTOTAL =</b>					
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).					
<b>TOTAL NATIONAL FEE =</b>					
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +					
<b>TOTAL FEES ENCLOSED =</b>					
				<b>Amount to be refunded:</b>	\$
				<b>charged:</b>	\$
a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.  b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.  c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>110224</u> . A duplicate copy of this sheet is enclosed.  d. <input checked="" type="checkbox"/> Fees are to be charged to a credit card. <b>WARNING:</b> Information on this form may become public. Credit card <b>information should not be included on this form.</b> Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:					
<b>Horst M. Kasper</b> <b>13 Forest Drive</b> <b>Warren, N.J. 07059</b>			 SIGNATURE <b>HORST M. KASPER</b> NAME <b>28,559</b> REGISTRATION NUMBER		

2001-10-06 08:00:00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Stefan Beetz et al.  
Serial No: Art Unit:  
Filing Date:  
Title: STABILIZERS FOR A MOTOR VEHICLE

PCT: No.: PCT/DE00/01558 Filing Date: 18 May 2000  
Priority: Country: Germany No.: 1992310.01 Filing Date: 20 May 1999

November 20, 2001

Attorney's Docket No.: JAA207

**PRELIMINARY AMENDMENT**

Hon. Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

SIR:

This is a preliminary amendment to provide certain corrections in the above captioned patent application. The applicant petitions that, if required, the time for response be extended and the corresponding fee be charged. The Commissioner is hereby authorized to charge any additional fees, which may be required to Acct. No. 11-0224. The Applicant further respectfully requests that this response be accepted as a bona fide effort to meet any potential response requirements outstanding and due in the above captioned matter.

Please amend the application as follows: **IN THE CLAIMS:**

## **CLEAN VERSION OF THE AMENDED CLAIMS**

9. Stabilizer according to claim 6 characterized in that the catches (14, 17) and the locking piston (18) are disposed in a common cylindrical casing (8), wherein the radial catch (17) is formed at the casing (8) and wherein the other catch (14) is formed at a shaft (15) supported in the casing (8) and penetrating to the outside and wherein the locking piston (18) separates the internal space of the cylindrical casing (8) into a compression spring chamber (19) and an oppositely disposed pressure chamber (20).

## MARKED-UP VERSION OF THE AMENDED CLAIMS

*(Version with markings to show changes made)*

9. Stabilizer according to [claims 6 or 8] claim 6 characterized in that the catches (14, 17) and the locking piston (18) are disposed in a common cylindrical casing (8), wherein the radial catch (17) is formed at the casing (8) and wherein the other catch (14) is formed at a shaft (15) supported in the casing (8) and penetrating to the outside and wherein the locking piston (18) separates the internal space of the cylindrical casing (8) into a compression spring chamber (19) and an oppositely disposed pressure chamber (20).

**REMARKS**

Claims 1 through 10 are in the case. Claim 9 is being amended.

The present preliminary amendment is submitted in order to eliminate multiple dependencies between claims.

Should be there any multiple dependent claims remaining, such remaining multiple dependent claims are to be deemed as treated as canceled by the applicant.

Entry of the above-recited corrections prior to calculation of the fee is respectfully requested.

Respectfully submitted,

Stefan Beetz et al.

By:



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Tel.: (908)526-1717; Reg. No. 28559  
Attorney's Docket No.: JAA207

\*%PAMEND(JAA207A1(November 20, 2001(tm-sz

**Inventors:** Stefan Beetz  
Klaus Reichel

**Invention:** STABILIZER FOR A MOTOR VEHICLE

**Attorney's Docket Number:** JAA207

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Attorney's Docket No.: JAA207

ENGLISH TRANSLATION OF  
INTERNATIONAL PCT APPLICATION

Application No. : PCT/DE00/01558  
Filing Date : May 18, 2000

4/ppts

## Description

### Stabilizer for a motor vehicle

The invention relates to a stabilizer with the features of the preamble of claim 1.

Such stabilizers are employed in motor vehicle technology.

In principle a stabilizer working according to the torsion bar principle is coordinated to each axle of a motor vehicle, wherein the stabilizer runs parallel to the axle and is attached at two ends at a wheel suspension. These stabilizers have the task to prevent or, respectively, diminish the transfer of rolling motions caused by the road situation and starting at the wheels onto the vehicle. Such rolling motions are generated mainly in the curves of the road or at the unevenness of the road, such as for example potholes or ruts.



Single part stabilizers exist, which are constructed in their dimensioning and in their material properties such that they receive torsion forces of a predetermined order of magnitude and that they can furnish corresponding counter forces. Single part stabilizers react however to different loads either too soft or too hard, which is disadvantageous for the driving comfort and single part stabilizers cannot accept increased loads.

Therefore increasingly two part stabilizers are employed, wherein the two part stabilizers are connected to each other by an axially fixed and rotary elastical clutch. Such a clutch is shown for example in the German printed patent DE 43 42 360 C2, wherein a rubber spring element is interposed between the two stabilizer parts. This rubber spring elements exhibits a softer spring constant and the thereby increases the possible twist angle between the two stabilizers. This way larger road loads can be opposed. The twist angle however is insufficient in case of road unevenness problems acting extremely different onto the wheels, such as they occur cross-country. In addition a slippage exists between the two stabilizer parts because of the

rubber spring element, which operates disadvantageously onto the driving behavior in case of a straight driving and planar road.

Increasingly two part stabilizers with a switchable clutch are employed for such extreme load situations, such as there are described for example in the German printed patent document DE 19705809 A1. This coupling is furnished as a friction clutch and is controlled hydraulically depending on the load of the wheels. The two halves of the clutch are frictionally engaged connected in case of a high outer load and are separated in case of a lacking load. A slippage occurs between the two stabilizer halves upon a small load of the wheels. Such friction clutches are not safe, since also a slippage of the clutch cannot be excluded in the closed position and since an unlimited twist angle is possible in the separated position under an exclusion of the stabilizer function. This is a safety risk.

There exists no switchable clutch in all known constructions, which connects the two stabilizer halves without play in the block condition and which safely separates the two stabilizer halves in the released condition and which

admits only unlimited twist angle of as desired plus/minus 40 degrees in the released state.

Therefore, it is an object of the invention to develop a stabilizer of the kind recited, which eliminates the recited disadvantages of the state-of-the-art and which automatically closes in a fail-safe-situation and which does not automatically separate in a coupled state.

This object is accomplished by the characterizing features of claim 1.

Advantageous embodiments of the invention result from the features of the claims 2 through 10.

The invention eliminates the recited disadvantages of the state of the art. A particular advantage results therefrom that the two great deal catches are disposed on the common plane and also remain in a common plane in each operating state and that only the adjustment piston with its locking elements is disposed axially shiftable. A play free and slippage free connection of the

two stabilizer parts occurs thereby in the coupled state. There results further from the arrangement of the two radial catches in the plane that there exist no further force transfer planes, which would shorten the effective length of the stabilizer parts.

The invention is to be explained in more detail in the following by way of an embodiment.

There is shown in:

Figure 1 a simplified presentation of a vehicle axle with a stabilizer,

Figure 2 the invention clutch in a sectional view,

Figure 3 the clutch in a locked state, and

Figure 4 the clutch in an unlocked state in the position of a maximum twist angle with a presentation of the rotary angle limitation.

Each axle of a motor vehicle comprises according to figure 1 in principle the two wheels 1 and one supporting axle 2 carrying the two wheels 1. A subdivided stabilizer 3 with its two stabilizer parts 4 and 5 is disposed parallel to the axle 2, wherein each stabilizer part 4, 5 is connected with a wheel suspension not illustrated of the corresponding wheel 1 and on the other hand to the vehicle body for support position 6. A clutch 7 is disposed between the two stabilizer parts 4 and 5, wherein the clutch 7 connects to each other or separates from each other the two stabilizer parts 4, 5 to a straight continuous stabilizer 3 through a gearing. The connected stabilizer 3 is adjusted in its dimensioning and in its material properties to receive torsion forces introduced through the wheels 1 and to build up corresponding counter forces. These forces are thereby not transferred or at least dampened onto the vehicle body.

The clutch 7 is constructed axially switchable and shape matching. For this purpose the clutch 7 comprises a cylindrical casing 8 with a closed floor 9, wherein a connection pin 10 for one of the two stabilizer parts 4, 5 connects

to the closed floor 9. The bearing position 11 for rotary hinge is disposed on the inner side of the floor 9. The casing 8 is disposed opposite to the floor 9 and is closed fixed against rotation with a cover 12, wherein the cover is furnished with the straight continuous bearing bore hole 13 for a further rotary hinge and with a radial catch 14 protruding into the interior of the cylindrical casing 8. The radial catch 14 is disposed in a radial space between the straight continuous bearing bore hole 13 and the inner wall of the cylindrical casing 8. The radial catch 14 can also be directly connected to the cylindrical casing 8 at the same arrangement. Furthermore a shaft 15 is fitted into the casing 8, wherein the shaft 15 penetrates the interior of the cylindrical casing 8 and on the one hand is rotatably supported in the bearing position 11 in the floor 9 of the casing 8 and on the other hand in the bearing bore hole 13 in the cover of the casing 8. The shaft 15 is connected to the other stabilizer part 4, 5 with the outer disposed pin of the shaft 15. The bearing bore hole 13 in the cover 12 is sealed to the outside by corresponding sealing elements 16. A further radial catch 17 is disposed on the shaft 15, wherein the further radial catch 17 is rotatable with the shaft 15 and is disposed and formed in the same way as the radial catch 14 at the

cylindrical casing 8. The radial catch 14 rests thereby at the cylindrical casing 8 and the radial catch 17 rests thereby on the shaft 15 in a common plane, whereby the two radial catches 14 and 17 are swivelable relative to each other only to a limited extent.

Furthermore a hydraulically actuatable locking piston 18 is disposed in the interior of the cylindrical casing 8, wherein the hydraulically actuatable locking piston 18 is guided axially shiftable and radially rotatable on the shaft 15 and wherein the hydraulically actuatable locking piston 18 subdivides the inner space of the cylindrical casing 8 on the floor side into a pressure spring chamber 19 and on the cover side into a pressure chamber 20. A compression spring 21 is inserted into the pressure spring chamber 19, wherein the compression spring 21 is supported at the floor 9 of the casing 8 and wherein the compression spring 21 loads the locking piston 18. The pressure spring chamber 19 is connected to a hydraulic tank through a leakage oil connector 22. In contrast, the pressure chamber 20 is furnished with a connection to a hydraulic pressure oil supply plant through a pressure oil connector not illustrated. The locking piston 18 is further furnished with

an internal sealing element 23 and with an external sealing element 24, which sealing elements 23, 24 hydraulically seal the pressure chamber 20 against the pressure spring chamber 19.

Two locking elements 25 are formed on the cover side of the locking piston 18, wherein the two locking elements 25 are disposed in the radial free space between the shaft 15 and the wall of the casing 8 in the same way as the two radial catches 14 and 17 and wherein the two locking elements 25 are disposed opposite to each other, that is staggered by 180 degrees. The shape and the dimensions of the two locking elements 25 are tuned in a particular way to the shapes and dimensions of the two radial catches 14 and 17.

Thus the two locking elements 25 have a width which fills without play the two caps between the two radial catches 14 and 17 and the two locking elements 25 have a length, which allows an engagement of the locking elements 25 in the region of the two radial catches 14, 17 in the one end position of the adjustment piston 18. Furthermore the locking piston 18 is furnished with a stroke limitation, wherein this stroke limitation prevents



that the two radial catches 14, 17 and the two locking elements 25 become disengaged in the other end position of the locking piston 18. Therefore, furthermore a positive longitudinal covering of the radial catches 14, 17 and of the locking elements 25 of the locking piston 18 exists in this end position.

The contact faces of the two catches 14, 17 and of the two locking elements 25 disposed opposite to each other and communicating with each other are composed in each case out of a conical face 26 with a smaller angle and a conical face 27 with a larger angle, wherein the conical face 26 with the smaller angle exhibits a larger axially length as compared to the conical face 27 with the larger angle and wherein the conical face 27 with the larger angle is disposed at the respective end of the catches 14, 17 or, respectively, of the locking elements 25.

The conicity of the conus face 26 with the smaller angle allows a connection always free of play of the two catches 14, 17 and of the two locking elements 25. Here the conical angle is selected such that the axial force

component of a radial force entered from the outside does not surpass the spring force of the compression spring 21.

The conical face 27 with the larger angle has an angle of about 45 degrees. The two radial catches 14, 17 obtain a radial play region in the opened position of the locking piston 18 based on the larger cone and based on the longitudinal covering of the two catches 14, 17 and the two locking elements 25 caused by the stroke limitation, wherein the radial play region is limited at two sides by having one of the two radial catches 14, 17 being supported at the other radial catch 14, 17 through in each case one of the two locking elements 25. This state is shown in figure 4. The twist angle possible thereby between the two stabilizer parts 4 and 5 can be adapted to the most different situations of application and amounts to preferably 40 degrees.

The pressure chamber 20 in the cylindrical case 8 is maintained free from pressure under standard road conditions, for example in the street traffic, such that the compression spring 21 loads the adjustment piston 18 and shifts the adjustment piston 18 in the direction of the radial catches 14, 17.

Side contacts between the radial catches 14, 17 and the two locking elements 25 occur. The radial catches 14, 17 are thereby centered and the locking piston 18 is also rotatable such that the two locking elements 25 penetrate to such extent into the intermediate spaces between the two radial catches 14, 17 until the conical faces 26 with the smaller angle come to rest. The locking piston 18 is held in this position by the force of the compression spring 21 over the full load range. The stabilizer parts 4, 5 coupled in this manner behave here like a single part stabilizer.

In case of nonstandard road conditions, as they occur for example cross-country, the torsion region of the coupled stabilizer 3 is not any longer sufficient in order to balance the rolling motions of the wheels. In such cases the pressure chamber 20 of the clutch is subjected to pressure by actuating a pressure supply plant preferably operated hydraulically, such that the locking piston 18 disengages from the contact region of the conical face 26 with the smaller angle against the force of the compression spring 21 and that the locking piston 18 shifts into its end position defined by the stroke limitation. The locking piston 18 is maintained in disposition by maintaining

the hydraulic pressure in the pressure chamber 20. Thus the two stabilizer parts 4, 5 are separated, however the two stabilizer parts 4,5 remain free rotatable relative to each other over a predetermined swivel region. One of the two radial catches 14, 17 in the region of the conical faces 27 with larger angle comes into contact with a locking element 25 and rotates the locking element 25 until the locking element 25 is supported at the conical face 27 with the larger angle of the other one of the two catches 14, 17 in case of different loads of the two wheels of an axle. The two stabilizer parts 4, 5 are again connected to each other in this coupling state such that the two stabilizer parts 4, 5 are in a position to receive torsional forces. The relative twist motion of the two radial catches 14, 17 is dampened in an advantageous way by the hydraulic liquid in the pressure chamber 20 subjected to pressure.

Of course, the hydraulic plant for activating the locking piston 18 can be constructed such that the force of the compression spring 21 is hydraulically supported which leads to an acceleration of the coupling process. The effect of the compression spring remains in case of a failure of the hydraulic plant,

wherein the compression spring maintains the couple state or induces the coupled state.

#### List of reference characters

1 wheel

2 axle

3 stabilizer

4 stabilizer part

5 stabilizer part

6 bearing position

7 clutch

8 cylindrical casing

9 floor

10 connection pin

11 bearing position

12 cover

13 bearing bore hole

14 radial catch

15 shaft

16 sealing element

17 radial catch

18 locking piston

19 compression spring chamber

20 pressure chamber

21 compression spring

22 leakage oil connector

23 internal sealing element

24 outer sealing element

25 locking element

[illegible][illegible]



## Patent claims

1. Stabilizer for a motor vehicle comprising to stabilizer part (4,5) aligned parallel to axle (2), wherein the stabilizer parts (4,5) are connected in each case on the one hand at the wheel suspension of one wheel (1) and on the other hand to the vehicle body through a bearing position (6) and wherein the two stabilizer parts (4,5) are connectable to each other through a switchable and shaped matching coupling, characterized in that

-the coupling is furnished with at least one catch (14) on the one hand and with at least one catch (17) on the other hand, wherein the two catches form at least two changeable intermediate spaces in a circumferential direction, and

- the intermediate spaces can be filled by at least two locking elements (25) shiftable to limited extent for force transmission, wherein

- the locking elements (25) and the catches (14, 17) are standing in continuous positive covering in circumferential direction and are tuned such to each other that the locking elements (25) and the catches (14, 17) are geared to each other without play in the locked end position and are standing in positive covering relative to each other in the released end position and are rotatable relative to each other over a limited angle region.

2. Stabilizer according to claim 1, characterized in that the catches (14, 17) are directed radially inwardly and are disposed in a radial plane and wherein the locking elements (25) are associated with a pressure loaded locking piston (18), wherein the catches (14, 17) and the locking piston (18) are disposed on a common axis.

3. Stabilizer according to claim 2 characterized in that the side contact faces of the catches (14, 17) and the locking element (25) are formed as conical faces (26) with a smaller angle and wherein radial stops are formed at the catches (14, 17) for the locking element (25).

4. Stabilizer according to claim 3 characterized in that the radial stops are disposed at the free ends of the catches (14, 17).

5. Stabilizer according to claim 4 characterized in that conical faces (27) with a larger angle are furnished as radial stops, wherein the axial length of the conical faces (27) with a larger angle are smaller relative to the length of the conical faces (26) with a small or angle.

6. Stabilizer according to claim 5 characterized in that the conical faces (26) with the smaller angle have an angle which maintains the axial force component of a radial introduced outer force smaller than the force acting on the floor side of the locking piston (18).

7. Stabilizer according to claim 2 characterized in that the locking piston (18) is charged by a compression spring (21) in the direction of the catches (14, 17) and is impactable by a pressure medium in an opposite direction.

8. Stabilizer according to claim 7 characterized in that the compression spring is supported by a hydraulic force.

9. Stabilizer according to claims 6 or 8 characterized in that the catches (14, 17) and the locking piston (18) are disposed in a common cylindrical casing (8), wherein the radial catch (17) is formed at the casing (8) and wherein the other catch (14) is formed at a shaft (15) supported in the casing (8) and penetrating to the outside and wherein the locking piston (18) separates the internal space of the cylindrical casing (8) into a compression spring chamber (19) and an oppositely disposed pressure chamber (20).

10. Stabilizer according to claim 9 characterized in that the floor (9) of the cylindrical casing (8) on the side of the compression spring is formed as a stroke limitation for the locking piston (18).

FIG. 1

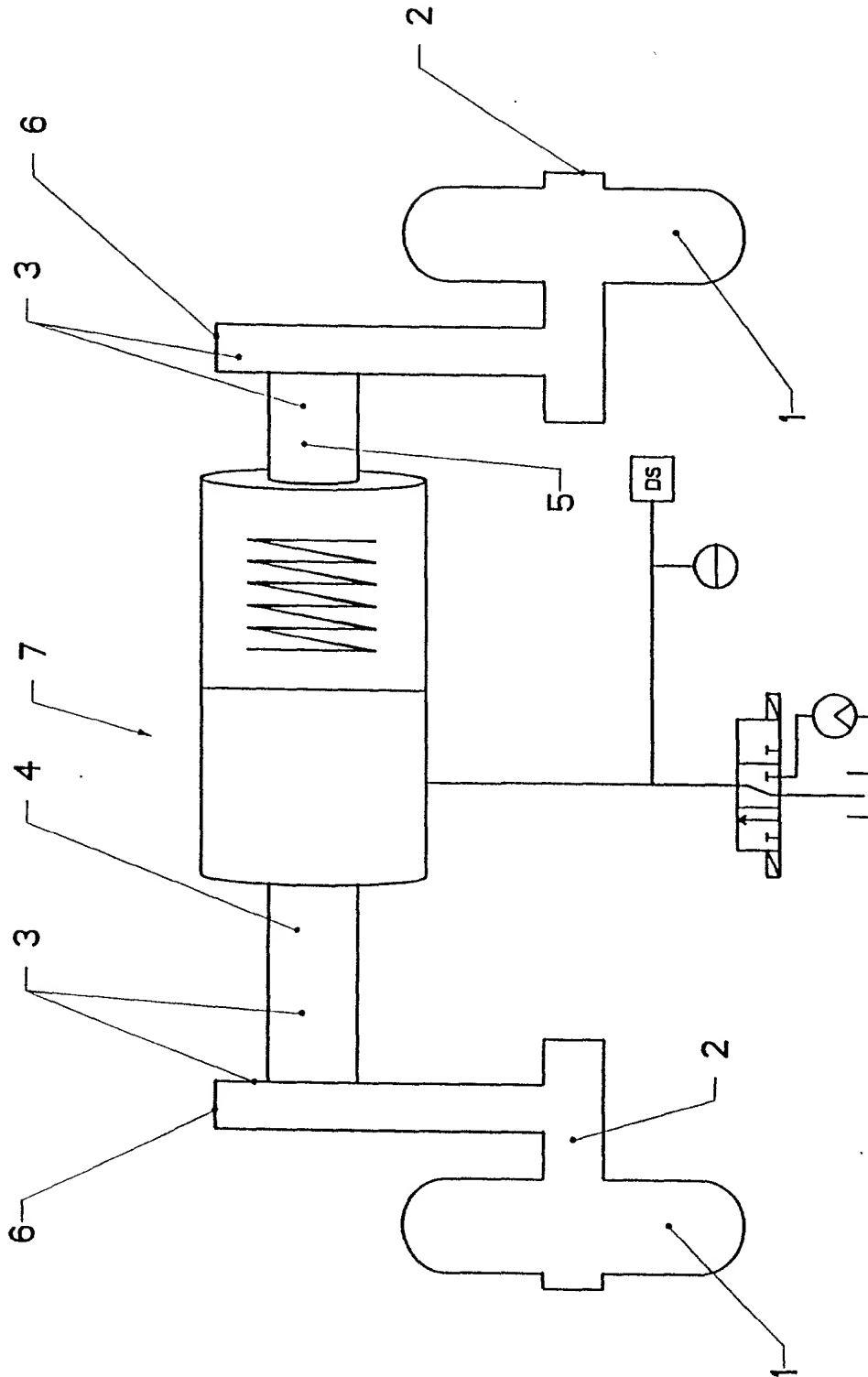


Fig.1

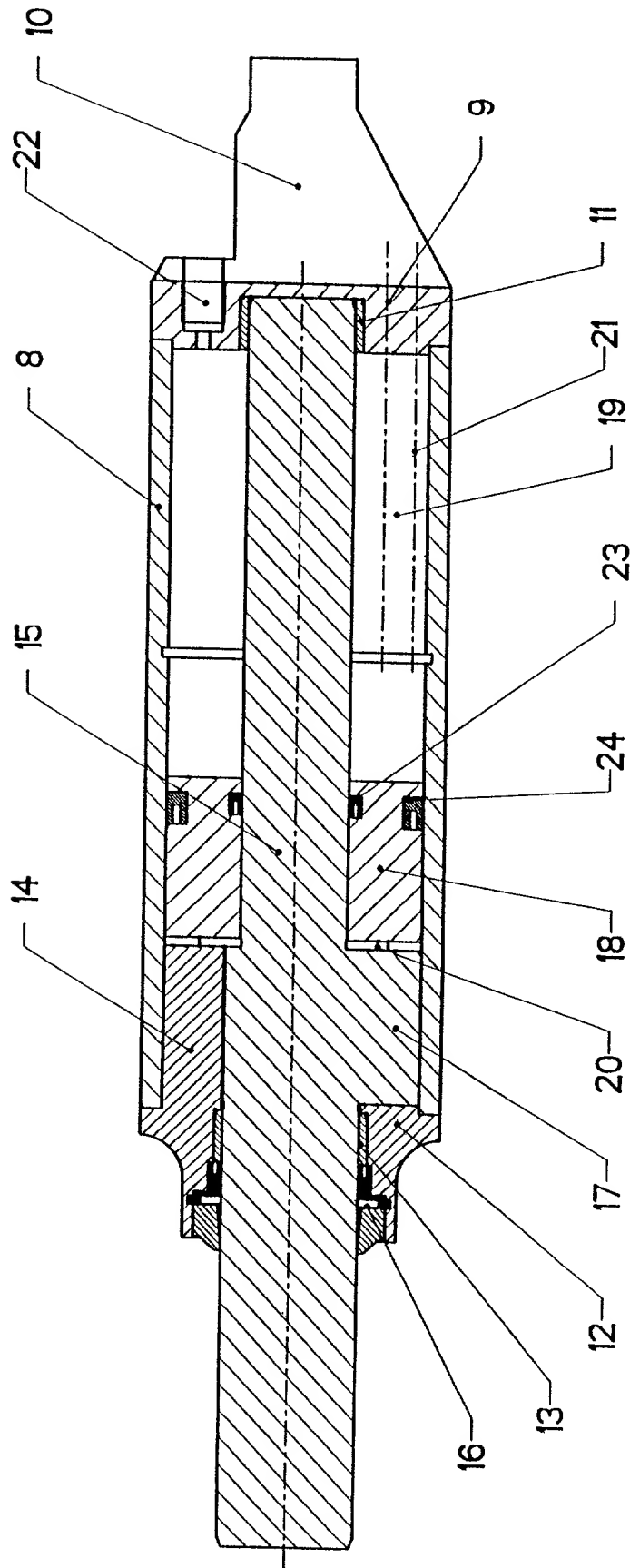
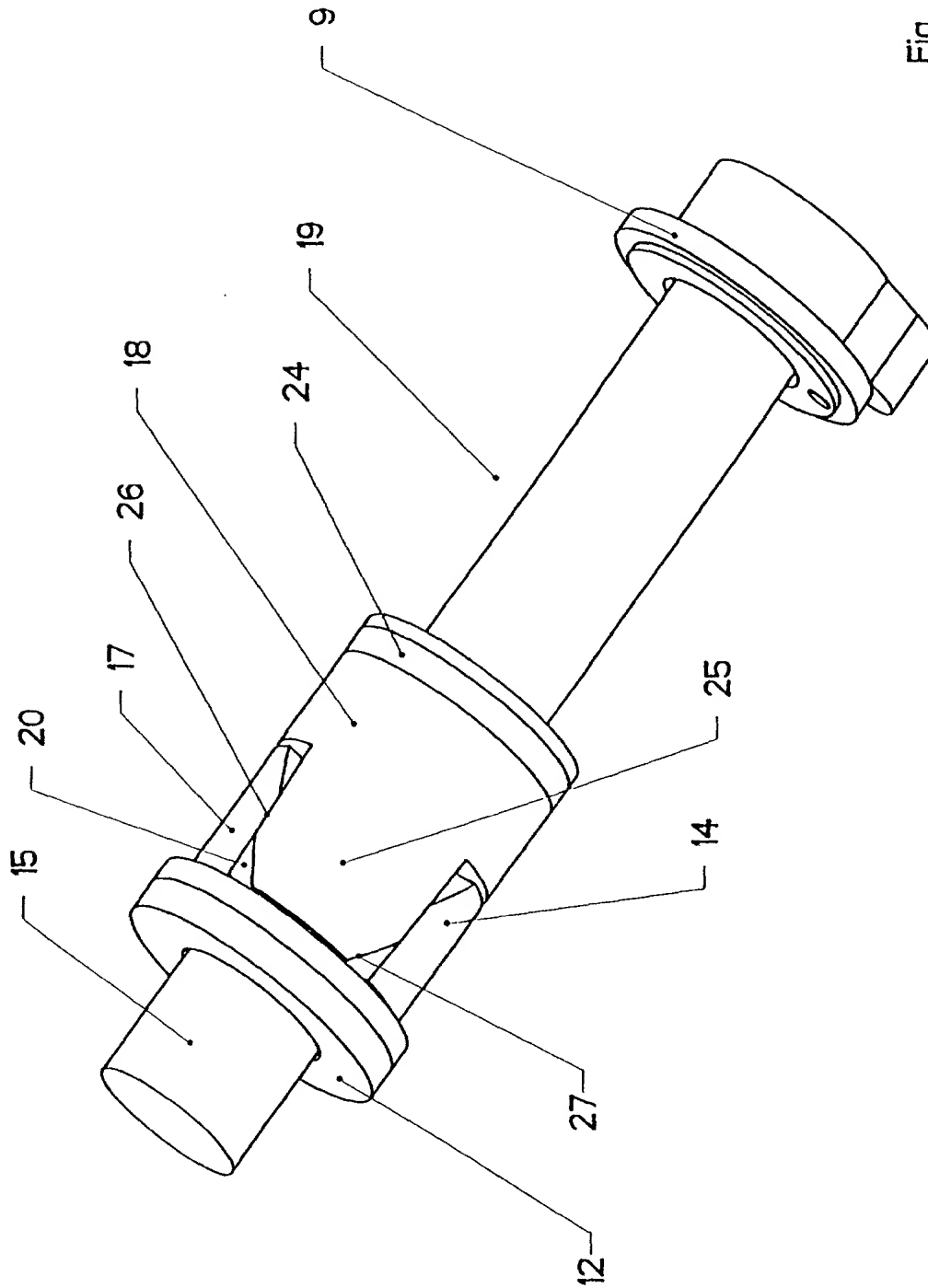


Fig 2



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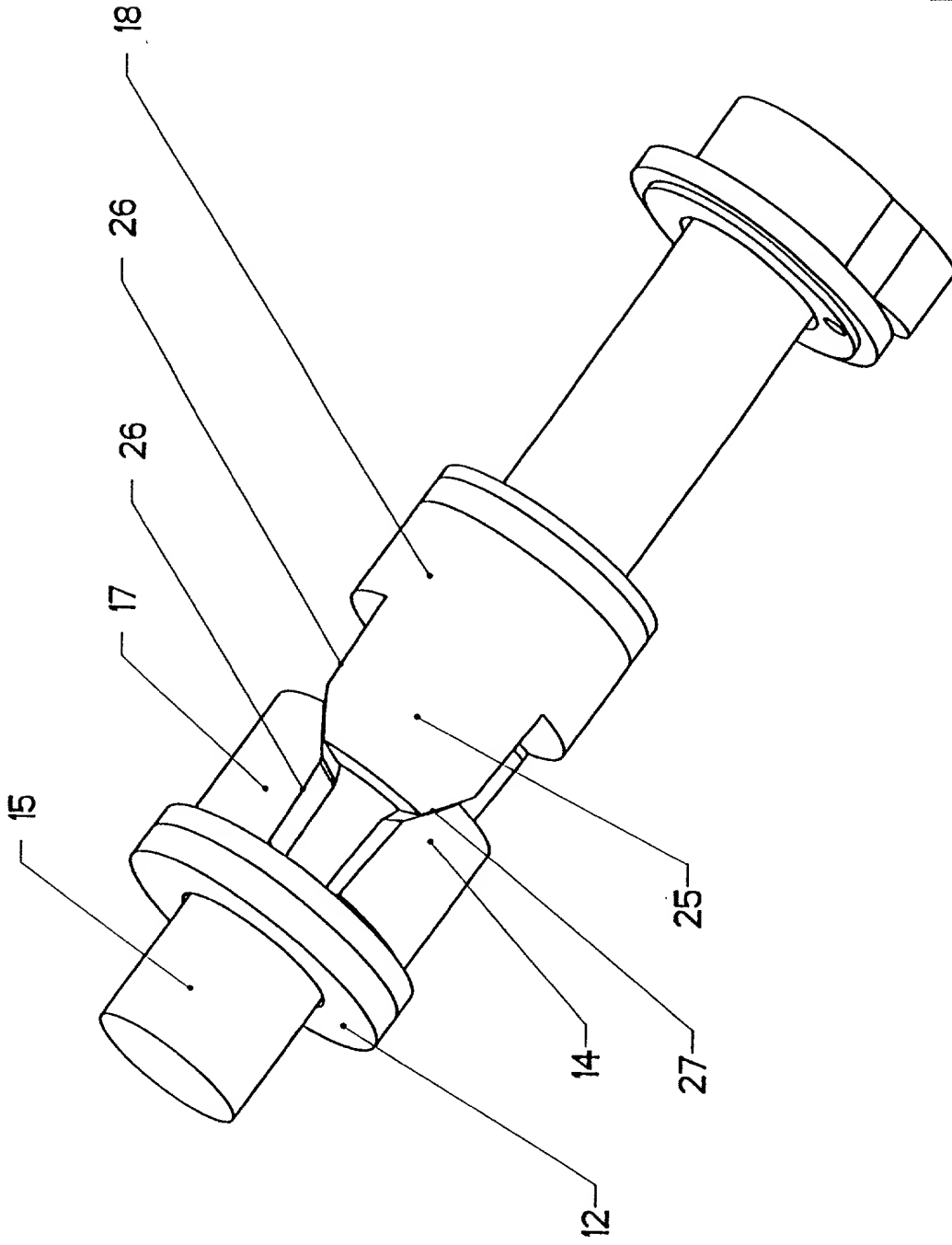


Fig. 4



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Stefan Beetz et al.  
Serial No: Art Unit:  
Filing Date:  
Title: STABILIZER FOR A MOTOR VEHICLE

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION  
Erklärung Für Patentanmeldungen Mit Vollmacht  
German Language Declaration Jaa207

Als nachstehend benannter Erfinder erkläre ich hiermit an Eidesstatt:

As a below named inventor, I hereby declare that:

daß mein Wohnsitz, meine Postanschrift und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

My residence, post office address and citizenship are as stated below next to my name,

daß ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent beantragt wird für die Erfindung mit dem Titel:

Stabilisator für ein Kraftfahrzeug

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

STABILIZER FOR A MOTOR VEHICLE

deren Beschreibung (nur eines der nachfolgenden Kästchen ankreuzen)

the specification of which (check only one item below)

< > hier beigefügt ist.

is attached hereto.

< > am \_\_\_\_\_ als U.S.-Anmeldung, Seriennummer eingereicht wurde und am \_\_\_\_\_ abgeändert wurde (falls tatsächlich abgeändert).

was filed as US Application Serial No. \_\_\_\_\_ on  
and was amended on \_\_\_\_\_ (if applicable).

<X> am 18. Mai 2000 als internationale PCT-Anmeldung, Nummer PCT/DE00/01558 eingereicht wurde und am \_\_\_\_\_ unter PCT-Artikel 36 abgeändert wurde (falls tatsächlich abgeändert).

was filed as PCT international application, Number PCT/DE00/01558  
on 18 May 2000 and was amended under PCT Article 36  
on \_\_\_\_\_ (if applicable)

Ich bestätige hiermit, daß ich den Inhalt der obigen Patentanmeldung einschließlich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

Ich erkenne meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Titel 37, Bundesgesetzbuch (Code of Federal Regulation), § 1.56 von Belang sind.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäß Abschnitt 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 119 jeglicher unten angegebenen Auslandsanmeldung(en) für ein Patent oder Erfindersurkunde oder jeglicher internationalen PCT-Anmeldung(en), welche mindestens ein Land ausser den Vereinigten Staaten benennt, und habe auch jegliche Auslandsanmeldung(en) für ein Patent oder Erfindersurkunde oder jegliche internationale PCT-Anmeldung(en), welche mindestens ein Land ausser den Vereinigten Staaten benennt, nachstehend gekennzeichnet, welche von mir für den gleichen Gegenstand eingereicht wurde und ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

**PRIOR FOREIGN /PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 USC 119:**

**FRÜHERE AUSLÄNDISCHE/PCT ANMELDUNG(EN) UND JEGLICHE PRIORITÄT UNTER 35 USC 119:**

Country (if PCT, indicate PCT) Land (falls PCT, PCT angeben)	Application No. Anmeldungsnummer	Date of Filing (day, month, year) Anmeldedatum (Tag, Monat, Jahr)	Priority Claimed under 35 USC 119 Priorität unter 35 USC 119 beansprucht
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Germany	199 23 100.1	20 May 1999	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Ja Nein
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Ich beanspruche hiermit gemäß Absatz 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 120, den Vorzug jeglicher unten aufgeführten U.S.-Anmeldung(en) oder die USA benennende internationale(n) PCT-Anmeldung(en) und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in dieser/diesen früheren Patentanmeldung(en) laut dem ersten Paragraphen des Absatzes 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 112

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I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37,

Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

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FRÜHERE AMERIKANISCHE ANMELDUNGEN ODER DIE USA BENENNENDE INTERNATIONALE PCT-ANMELDUNGEN FÜR VORRECHT UNTER 35 USC 120

U.S. APPLICATIONS		STATUS (Check one)
U.S. Application No.	U.S Filing Date	Patented Pending Abandoned
AMERIKANISCHE ANMELDUNGEN		STAND (ein Kästchen ankreuzen)
Seriennummer	Anmeldedatum	Patentiert Anhängig Aufgegeben

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PCT APPLICATIONS DESIGNATING THE U.S.  
PCT Application PCT Filing Date U.S.Ser.Nos.  
Number assigned (if any)

DIE USA BENENNENDE PCT-ANMELDUNGEN  
PCT-Anmelde- PCT-Anmeldedatum Zugeteilte Serien-  
nummer nummern (falls zutreffend)

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VERTRETUNGSVOLLMACHT: Als benannter Erfinder beauftrage ich hiermit den nachstehend benannten Patentanwalt (oder die nachstehend benannten Patentanwälte) und/oder Patent-Agenten mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Geschäfte vor dem Patent- und Warenzeichenamt: (Name und Registrationsnummer anführen)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)

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Ich erkläre hiermit, daß alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und daß ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, daß wissentlich und vorsätzlich falsche Angaben gemäß Paragraph 1001, Absatz 18 der Zivilprozeßordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden können, und daß derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Voller Name des einzigen oder ursprünglichen Erfinders:  
Full name of sole or first inventor:

*Stefan Beetz*  
Stefan Beetz

Unterschrift des Erfinders  
Inventor's signature

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